NOTES ON THE ECONOMIC THEORY OF EXPULSION AND EXPROPRIATION

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ABSTRACT

The paper is designed to provoke discussion of the circumstances under which expulsion of aliens from an economy can increase the total income of the remaining residents. The presumption, based on a first approximation assuming competitive equilibrium and convex constant-returns-to-scale production technology, is that expulsion cannot increase total citizen income and may diminish it, unless it is accompanied by expropriation. How this presumption might be modified or reversed by failure of its assumptions is discussed. The most important possibility is that aliens held monopolies in high marginal product occupations from which qualified or potentially qualified citizens were excluded. Readers are invited to speculate about other possibilities, including dynamic effects and changes of social psychology, which cannot be analyzed with the techniques of static economic theory used here.

INTRODUCTION.

When aliens are expelled from a nation, what is the effect on the economic welfare of the remaining residents? The question is suggested by current and recent events in East Africa. The most spectacular of these is General Amin's expulsion of Asians and Europeans from Uganda. A quieter, slower, and more humane policy of Africanization continues in Kenya, as non-citizens are gradually denied renewal of trade licenses and work permits. These policies are explicitly premised, at least in part, on the expectation that the economic welfare of African citizens will be improved, certainly in the long run if not immediately. Against this official premise stand the dire predictions of some observers and comentators, mostly foreigners, that these countries will suffer great economic loss by forcing productive members of their economies to depart.

What can economic theory say about this conflict of analysis and prediction? It is too much to expect to answer empirical questions without empirical research, which will not be able to provide conclusive answers for some time to come if ever. But theory should at least be able to offer some guidance for such research, delineating the facts on which the answers depend.

To avoid misunderstanding at the outset I stress two points. First, I am not concerned here with the ethics of policies of Africanization, either their objectives or the means by which they are pursued. The paper concerns only the efficacy of the policies with respect to their stated objectives. Second, I am concerned only with the economic objectives and motivations of the policies. I recognize that the policies could have, doubtless do have, important political and social goals as well. Conceivably the majority of East Africans and their leaders would find the gains of "controlling our own economy" worth some loss of per capita income and consumption, should that price have to be paid. Conceivably improvements in the positions of certain native elites might have decisive weight in political evaluation of the merits of expulsion, for national as well as self-interested reasons. I confine myself to the narrower question, the effect on the average per capita income of citizens.

A first approximation will serve as a useful point of reference for further considerations. It is that expulsion without expropriation cannot increase but may well decrease the average income of the remaining residents. This answer depends on certain assumptions which it is well to put on the table right away; some consequences of possible failure of these assumptions will be discussed in later sections. The assumptions are:

a. As already stated, there is no expropriation of the non-human properties of the expelled aliens. They are paid full value for properties they leave behind, though they are not compensated for the loss of their incomes from personal labor and skill, "human capital".

b. Before and after expulsion the economy is in competitive equilibrium, in which factors of production are paid their marginal private and social products.

c. Production is subject to constant returns to scale in the economy, and production functions are convex. (That is, if x_1 and x_2 are any two feasible vectors of inputs and outputs, then any linear combination of them $bx_1 + (1-b)x_2$ $(0 \leq b \leq 1)$ is also feasible).

d. The output of the economy can be regarded as a single homogeneous commodity produced by a large number of inputs. This is a convenient, and I think innocuous, simplification. It enables me to define income unambiguously and to avoid welfare calculations in terms of utilities.

I shall sketch two explanation of the first approximation theorem. They do not deserve to be dignified as "proofs"; rather they rely on well-known results proved elsewhere. The first assumes the usual neo-classical production function, with continuous positive first derivatives in all inputs. The second, which I find more instructive, uses a linear activity analysis model of production. Both come to essentially the same result.

In both approaches the homogeneous output is produced by n inputs. The quantity of the ith input initially owned by citizens is c_i; the quantity initially owned by aliens is a_i; of this a_i' remains in the country after expulsion, while the remainder departs with the aliens $(0 \leq a_i' \leq a_i)$. The price of the ith factor, measured in terms of output, is p_i before expulsion and p_i' after expulsion. In each case the price of the factor is its marginal product. Initially, before expulsion, total output Y is $\Sigma p_i(c_i+a_i)$; this equality is assured by the assumption of constant returns to scale, which implies that payment of marginal products to all inputs just exhausts output. Of this total Y citizens receive $\Sigma p_i c_i$, which I will denote as y. After expulsion, total output Y' is $\Sigma p_i'(c_i+a_i')$. The income of citizens is $\Sigma p_i'(c_i+a_i') - \Sigma p_i a_i'$, y' for short. The second term in y' is the compensation annually paid aliens, in the case of no expropriation, for the productive properties they left in the country. Note that this compensation is paid at the initial prices p_i, the earnings of these factors of production prior to expulsion. The "first approximation" proposition is that y' is at most equal to y.

A further word about compensation is in order. We do not have to imagine a literal annual payment to the former alien owners. More likely they will have sold the properties outright and obtained in exchange foreign assets previously owned by the citizens or government of the country they left. Or that economy will have borrowed abroad the sums needed to pay the aliens full capital value. Either way there is an increase in the net annual interest burden on the economy payable abroad, equal to $\Sigma p_i a_i'$.

In summary:

(1) $y = Y - \Sigma p_i a_i = Y - \Sigma p_i a_i' - \Sigma p_i(a_i - a_i')$

(2) $y' = \qquad\qquad Y' - \Sigma p_i a_i'$

(3) $y - y' = [Y - \Sigma p_i(a_i - a_i')] - Y'$

The question at issue is the value of y - y' as given in equation (3).

Pursuing the first approach, assume that Y = F(c+a), where F(x) is a convex production function in the n inputs $x_1, x_2, \ldots x_i, \ldots x_n$, with positive continuous first derivatives (marginal products) $F_i(x)$. Similarly Y' = F(c+a'). The factor prices p_i are $F_i(c+a)$--the marginal products when the initial set of inputs is producing Y. The factor prices p_i' are $F_i(c+a')$--the marginal products when the post-expulsion set of inputs is producing Y'. Now equation (3) can be rewritten:

(4) $y - y' = [F(c+a) - \Sigma F_i(c+a)(a_i - a_i')] - F(c+a')$

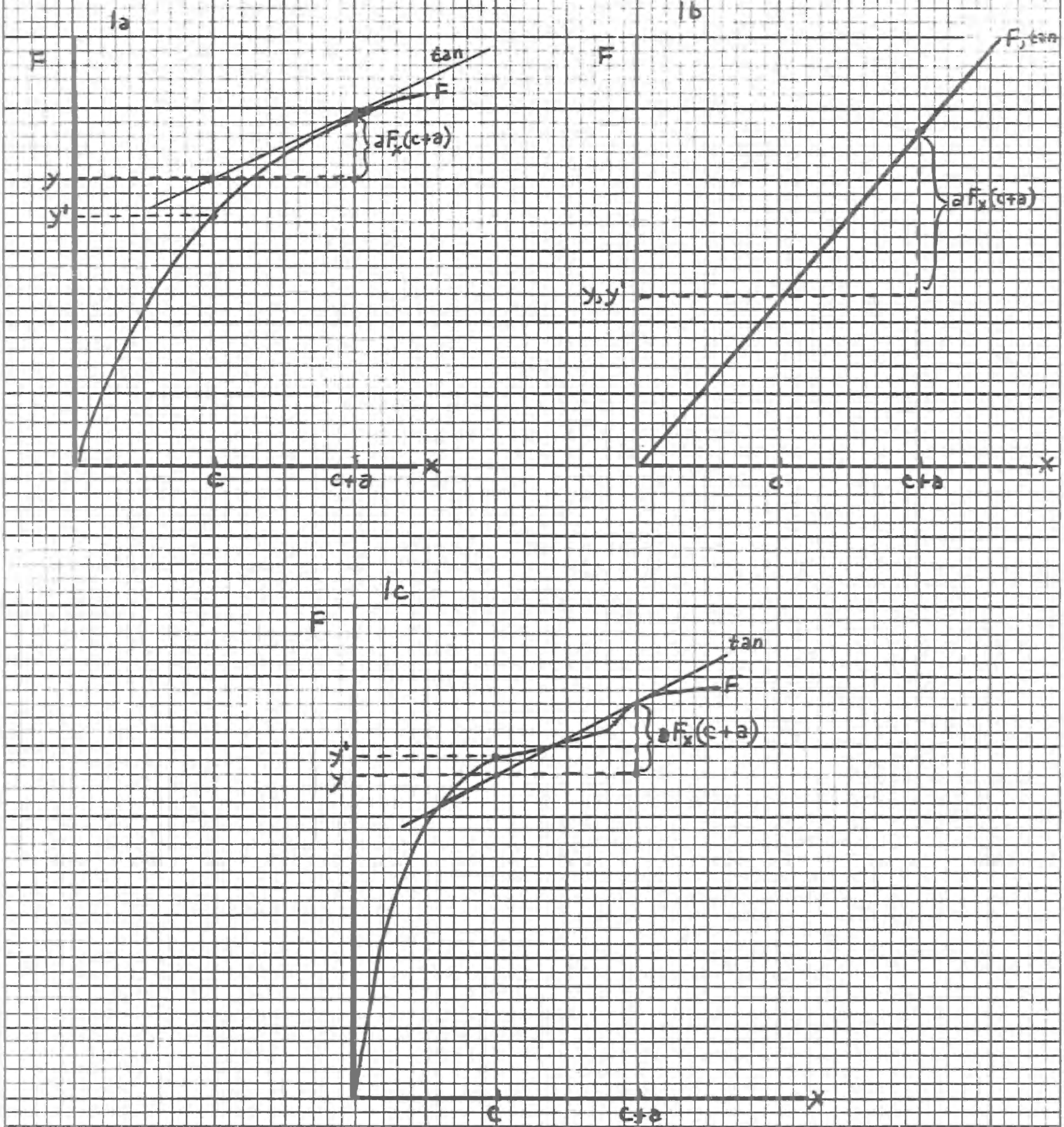
The term in brackets is a linear approximation to F(c+a'), obtained by starting with F(c+a) and assuming that all first derivatives at that point (marginal products) remain constant as inputs are reduced from $c_i + a_i$ to $c_i + a_i'$, namely reduced by amounts $a_i - a_i'$. Calculus students will recognize it as a Taylor expansion of F from the point c+a, broken off at the terms involving first derivatives. By convexity we know that this linear approximation never understates but may overstate the true value of F at the second point c+a'.

Geometrically, imagine the plane tangent to the production surface at c+a. The bracketed expression in (4) is the height of the plane in the output dimension, at c+a'. That is, from the point of tangency go along the tangent plane towards the origin by the distances $a_i - a_i'$ in every input direction, and consider the height of the plane in the output dimension at that point. The assertion is that the production function F itself, for that same set of inputs, is not above the tangent plane at that point. A tangent plane never intersects a convex surface. Tangency means that the plane is not below F at some points close to c+a. Suppose that it were nonetheless below F at c+a'. Then a line from c+a', F(c+a') to c+a, F(c+a) would be above the tangent plane at all intermediate points, and _a fortiori_ above F at those intermediate points close to c+a where F is below or on the tangent plane. This violates convexity, which requires that if any pair of input-output points are feasible all points on the line connecting them are also feasible.

Two-dimensional illustrations cannot do the situation justice, but may be useful. In these illustrations I take a_i' to be zero for simplicity. Figure 1a shows F as a strictly convex function of one input and indicates how y exceeds y'. Figure 1b shows F as a linear constant-returns-to-scale function of one input, with y=y'. Figure 1c shows how the conclusion y<y' requires non-convexity of F. Figure 2 is another attempt of the same kind. Here the axes represent two inputs, and the familiar production isoquants are shown. The tangency is shown at the initial input point c+a. The new input point is c, on a lower isoquant. The production values of isoquants can be compared by observing where they cross a common ray from the origin Thus if OY is the production value of the original isoquant through point c+a, OY' is the production value of the isoquant through c. The line through c has the same slope as the tangent at c+a; it is a projection or isoquant of the tangent plane on to the input plane in the same way that the production isoquants are projections of the production surface F. The height of the tangent plane at c is also given by the distance from the origin at which it crosses the ray from the origin. In Figure 2, with strictly convex isoquants, it is clear that at c the tangent plane is higher than the production function. If the isoquants were linear their heights would be equal. Only if the isoquants were concave (to the origin) could the production function exceed the tangent plane.

As Figure 1b illustrates, equality of y and y' occurs, consistent with convexity, when there is a proportionate reduction of all inputs. (In Figure 1b "all" means one). This can also be seen in Figure 2 by imagining

Figure 1



1a
F
tan
F
$aF_x(c+a)$
y
y'
c
c+a
x
1b
F
F, tan
$aF_x(c+a)$
y, y'
c
c+a
x
1c
F
tan
F
$aF_x(c+a)$
y'
y
c
c+a
x

Figure 2

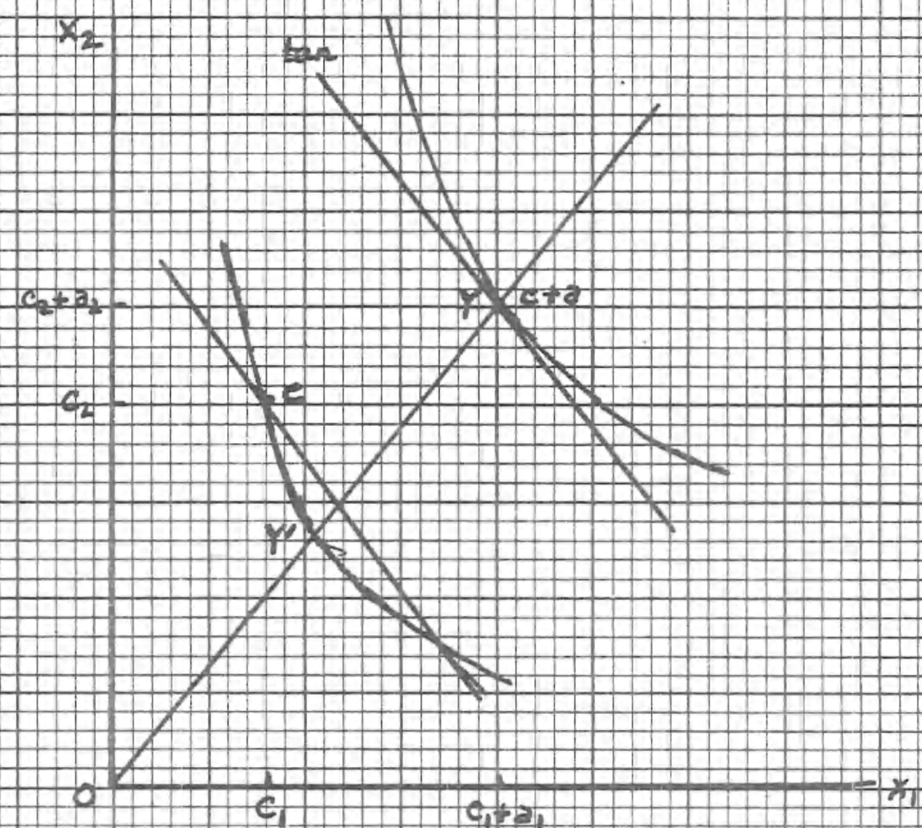
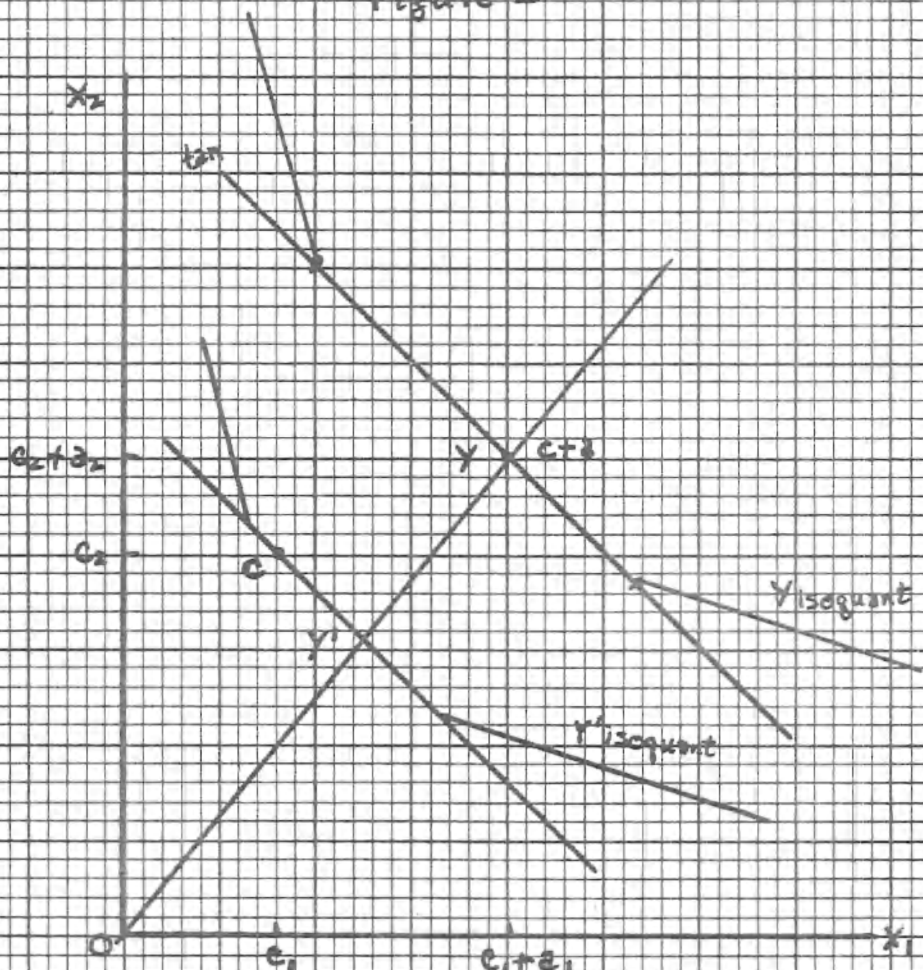


Figure 3



that point $c+a'$ were on the same ray OY as point $c+a$. The plane tangent to F at $c+a$ is also tangent at every point of F along this ray. If we go down the tangent plane along this ray we stay on the production function, and $y = y'$. But if we go in any other direction, we are above the production function and $y > y'$.

In general we know by constant returns to scale that $F(vx) = vF(x)$ for any positive v. Suppose that by some improbable coincidence expulsion reduces all inputs in the same proportion so that $c_i+a_i' = v(c_i+a_i)$ for all i. Then $F(c+a') = vF(c+a)$, and $\Sigma F_i(c+a)(a_i-a_i') = (1-v)\Sigma F_i(c+a)(c_i+a_i) = (1-v)F(c+a)$. It follows that the bracketed expression in (4) is $vF(c+a)$ and that $y - y'$ is zero.

II

The alternative approach, leading to essentially the same conclusion, is to model production as a set of linear activities or processes. Each process is subject to constant returns to scale and is characterized by fixed requirements of various inputs per unit of output. Production of the homogeneous output can be carried out by any number of the m available processes, each one using some or all of the n factors of production. A competitive equilibrium is the solution of a linear programming problem, maximizing output subject to the constraints imposed by the n factor supplies. In the equilibrium some s processes are operated, where s cannot exceed either m or n. Correspondingly, s of the factor supply constraints--obviously never more than n or m--will be binding, while the remaining n - s factors will be in excess supply. In linear programming jargon the selection of s operating processes and s fully employed activities is a basis, and the programming problem is to find that basis which maximizes total output, given the factor supply constraints.

Factor prices are marginal productivities, just as in the neoclassical approach of section I. The prices of all the surplus factors are zero. The prices of the other s factors are found by imputing the value of the production of each operating process to the s non-surplus inputs used in its operation. They may be found by solving s simultaneous break-even equations, one for each process in the basis, for the prices of the s factors in the basis. At these factor prices, any process not in the solution basis, i.e. any process that is inefficient to use, would cost more to operate than it could produce.

How does the competitive equilibrium, the solution of the linear programming problems, change when factor supplies are altered by expulsion? There are two possibilities. One is that the solution basis is unchanged. This will certainly be the case if expulsion simply scales down all inputs proportionately. Constant returns to scale are built into the model. But it is also possible that the basis is unchanged even if the relative supplies of inputs are changed. Geometrically, the production function here consists of plane facets. Each facet corresponds to a different basis, as do the boundary lines and points between facets. The tangent or "supporting" plane, instead of touching the production surface only along one line, the ray from the origin, may coincide with a whole facet. The change in factor supplies may not be so great as to move out of this facet. In this case, since the basis is unchanged, factor prices are unaffected and $y = y'$. A two-factor example is diagrammed in Figure 3, which has the same general structure as Figure 2.

The other possibility, of course, is that the equilibrium basis is altered. Some processes formerly in operation may drop out, while others previously unused become efficient. Some factors initially surplus may become binding constraints, while others become unemployed for lack of cooperating factors. The dimension of the basis s may rise or fall. In any event the following is true: Let the prices p_i correspond to the initial basis B for factor supplies c_i+a_i, and the prices p_i' correspond to the post-expulsion basis B' for factor supplies c_i+a_i'. Then if B' is different from B, $\Sigma p_i(c_i+a_i')$ exceeds $\Sigma p_i'(c_i+a_i')$. Therefore $\Sigma p_i c_i$ exceeds $\Sigma p_i'(c_i+a_i') - \Sigma p_i' a_i'$. That is, y exceeds y'.

The general proposition is the duality theorem of linear programming. The minimum valuation of given factor supplies occurs with the prices of that basis which maximizes the objective function (here total output) with those factor supplies. The prices of some other basis, one which would be the maximizing solution for a different set of factor supplies but not for this set, will give a larger valuation of the actually given factor supplies.[1]

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1. Ties are of course possible. Two or more bases may be solutions for a given set of factor supplies. Prices will be indeterminate between them, but total output and factor income will be the same whichever basis and price system is used. I assume that if the basis and prices that prevailed before expulsion continue to be one of the possible solutions, even though not the only one, after expulsion they will continue to prevail.

Two considerations may add to the common sense appeal of the proposition, and of its application to the problem of this paper. One way in which B' may differ from B is that some factors that are surplus with respect to B' are included in basis B. Their prices in p_i' are zero but positive in p_i. These are likely to be factors which are relatively abundant in the B' situation; it is these abundant factors that are generously valued if the "wrong" prices--p_i corresponding to B--are used. Another difference might be that some processes included in B' are not in B. Such processes break even at prices p_i'. but show losses at prices p_i. This means that the incomes of the factors used in them are higher at prices p_i.

There is another interesting and intuitively reasonable implication. The inputs withdrawn by the aliens are in aggregate more valuable, anyway not less, at the factor prices that prevail <u>after</u> their expulsion. It is not surprising; the factors most heavily reduced in supply would be expected to become relatively scarce and high-priced. To see this, use in reverse the theorem discussed and employed above: $\Sigma p_i'(c_i+a_i) \geqq \Sigma p_i(c_i+a_i)$, that is: $\Sigma p_i'(c_i+a_i') + \Sigma p_i'(a_i-a_i') \geqq \Sigma p_i(c_i+a_i') + \Sigma p_i(a_i-a_i')$. But

$$\Sigma p_i'(c_i+a_i') \leqq \Sigma p_i(c_i+a_i') \qquad \text{Therefore}$$

$$\Sigma p_i'(a_i-a_i') \geqq \Sigma p_i(a_i-a_i')$$

III

Before discussing below the limitations of the first approximation argument of sections I and II, I should emphasize what it does <u>not</u> mean. Let us assume, realistically I think, that the loss of inputs due to expulsion is uneven rather than proportionate, b that aliens were not providing the same mixture of inputs as citizens. In the linear analysis of section II, let us assume indeed that the changes of relative factor supplies are drastic enough to alter the basis. So the first approximation conclusion is the stronger one that aggregate citizen income is lower after expulsion. This does not imply that every marginal product, every factor price, declines. Some citizens, those who can supply factors formerly provided substantially by aliens, will enjoy increases in their incomes. Others, those who supply factors complementary to aliens' productive inputs, will suffer losses. Convexity implies that in aggregate the complementary effects dominate, so the gains are smaller than the losses. But substantial shifts of income distribution can certainly occur.

If the East African stereotype of aliens as shopkeepers, traders, independent professionals or semi-professionals, and small business managers is accurate, citizens with these capacities will be in scarce supply after expulsion. Their marginal products and earnings will rise. On the other hand, citizens whose jobs and productivity depend on having shopkeepers, traders, professionals, and managers to assist will suffer.

In sections I and II, I distinguished between those alien inputs which are physically withdrawn from the country and those which remain after compensation of former alien owners. What difference does it make how alien inputs are divided between these two categories? At one extreme, if all alien inputs remained in the country--as would happen if all aliens were simply rentiers and absentee landlords--the argument implies that expulsion does not alter citizen income: $y = y'$. Indeed it does not even alter the distribution of citizen income. It doesn't matter whether the aliens are resident capitalists or non-resident capitalists.

The other extreme is that all alien inputs are physically withdrawn. In this case, where the a_i' are zero, the first approximation theorem applies and tells us that y', equal to $\Sigma p_i'c_i$ is less than or equal to y, which is Σp_ic_i. The same outcome occurs if the a_i' are non-zero but compensation for them is paid at prices p_i' rather than prices p_i. In effect, alien owners are compensated at the new prices of the inputs they leave behind, rather than the old prices. It is as if they retained equity in these properties and were remitted their actual earnings under the new conditions. This leaves citizens with the earnings of the inputs they originally owned, totalling $\Sigma p_i'c_i$, no less and no more. Although this principle of compensation might well be less favorable to aliens than payments at the initial prices p_i, it does not make it possible for citizens in aggregate to gain from expulsion.

We have no way to compare intermediate cases with the two extremes or with each other. But realistically it is quite conceivable that citizen losses are especially acute when alien inputs are partly immobile and partly mobile. The immobile inputs may well be especially complementary to the mobile ones, so that the prices of the immobile inputs are especially depressed by expulsion. Yet the citizen economy is saddled with a debt for these immobile properties, calculated at the pre-expulsion prices. High complementarity of this kind seems likely between shops, workshops, and professional equipment and the self-employed proprietors and professionals who formerly owned and operated them. In other words, if the citizen economy had the option of destroying the immobile properties without compensating their alien owners rather than preserving and operating them while paying full compensation, the former alternative might well be chosen.

But it is time of course to recognize the third alternative, to keep the properties without full and fair compensation. Clearly citizens can gain by full or partial expropriation of aliens, or of non-residents for that matter. In the algebra, $\Sigma p_i'(c_i+a_i')$, with little or no deduction for debt to former owners of the a_i', may easily exceed Σp_ic_i, even though the p_i are on balance better prices for citizen inputs than the p_i'. No one ever doubted that expropriation pays, at least in the short run before repercussions on foreign investment are felt. Our basic first approximation conclusion is that expropriation is the only aspect of expulsion that promises gains.

IV

The argument so far was based on the assumption that factor incomes are competitively determined, equal to the marginal products of available factor supplies. But, it will be asked, what if the aliens had some monopolistic market power?

The first answer is merely an extension of previous arguments. If the monopolies were attached to particular immobile properties and sites owned by aliens, and if the compensation paid them fully capitalized the monopoly incomes, transfer of these properties and sites to citizen ownership and operation cannot increase aggregate citizen income. Of course the new owners and managers may not shoulder any or all of the debt burden, so that they personally benefit. But other citizens, taxpayers or consumers, will suffer correspondingly. Once again the gain, if any, can only come from expropriation.

If expulsion were the occasion for eliminating the monopolies associated with these properties, the citizen economy could gain whatever deadweight loss had been due to the previous distortion and misallocation. But this could presumably have been accomplished without expulsion. Indeed one may suspect that monopolistic power will be reinforced by the loss of potential competitors.

Other monopolies may have been attached to the mobile human capital or labor skills of the expelled aliens. Suppose that there had been artificial restrictions on entry into occupations where aliens were heavily represented but qualified citizens were excluded. Excluded citizens were forced into lower-paying occupations below their capacities, occupations where their marginal products were further depressed by the artificially swollen supplies. When the aliens leave, citizens take their slots. Here there is a potential gain in citizen income. The loss of alien inputs is at least partially compensated by an upgrading of marketable citizen factor supplies.

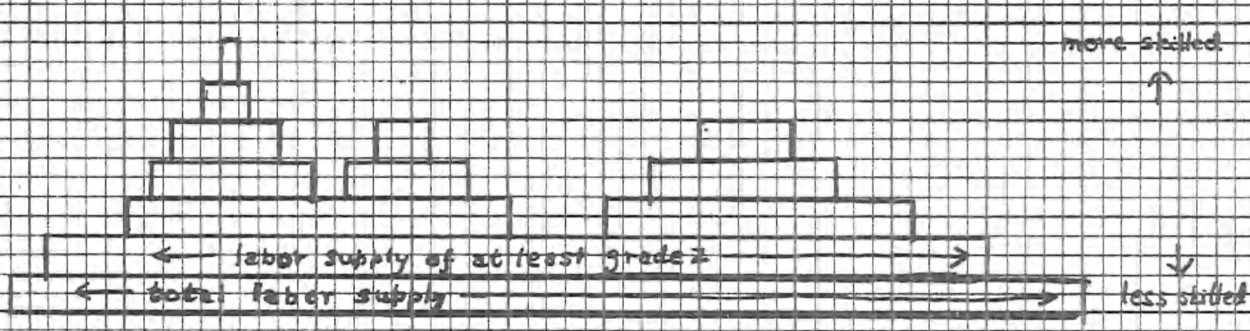
An extreme example will make the point. Suppose that all aliens benefited, so far as their mobile inputs are concerned, from restrictions on entry to their occupations. Suppose that exclusion of qualified citizens from these high-paid occupations resulted, via a chain of bumpings down the ladder, in an actual surplus of general unskilled citizen labor.

(Here the linear production model is the relevant one, because it allows for the possibility of surpluses of some factors.) The marginal product and price of this labor is then zero. Suppose that this unemployment was no larger than the number of privileged skilled aliens expelled. After expulsion the citizen labor force shuffles up the skill ladder. At every rung qualified recruits replace departing aliens or replace other citizens who move up to fill higher-level vacancies. There is a new set of citizen factor supplies c_i', identical to the old factor supplies $c_i+a_i-a_i'$, which were distorted by monopolistic restrictions before expulsion. Therefore the total output of the economy will be unchanged, but now all of it, except the compensation for aliens' immobile inputs $\Sigma p_i a_i'$, belongs to citizens. Citizen income gains by $\Sigma p_i(a_i-a_i')$.

The analysis is the same in principle but more complex in detail if the restrictions took the form of excluding potentially qualified citizens from education and training. For example, maybe citizen children capable of acquiring the human capital of aliens were prevented from doing so by allocation of school slots to alien children. Presumably then the returns on investment in citizen human capital, especially in view of the low opportunity cost of diverting young citizens from labor force to schooling, exceeded the social interest rate. In the long run the human capital of the departing aliens is replaced, and the returns on it all accrue to the citizen economy. And these returns, thanks to the sub-optimal level of education and training in the first place, exceed the interest costs of the investment to the citizen economy.

Others can judge better than I the realism of these scenarios, or of less extreme scenarios with the same qualitative results. They cannot be either excluded or accepted *a priori*. Were aliens in East Africa in fact able to restrict citizen entry and competition in their professions and lines of business? Were they in fact able to keep citizens out of scarce school slots or to prevent the expansion of educational opportunities for citizens? If so, an economist is bound to observe that anti-monopoly pro-competitive measures were an alternative to expulsion. Indeed the argument of sections I and II suggests that these measures would add more to citizen income than expulsion could. Better to retain the aliens and their skills, but to pay them only their true competitive marginal products, the prices they would command in competition with all qualified citizens.

Figure 4



more skilled
labor supply of at least grade 2
total labor supply
less skilled

V

Section IV employed implicitly a specialization of the activity analysis model of section II, and it may be worth while to spell it out somewhat more precisely. Consider a subset of factors of production, all of them varieties of human labor, say inputs 1,2,...k. I call it a hierarchical subset if the total available qualified supply of input i is also included in the total available supply of input i-1, for all i from 2 to k inclusive. In such a subset, in other words, inputs can be graded by skill, and anyone with a certain grade of skill is also qualified for all lower grades. In listing factor supplies x_i, x_1 is the total amount of labor of all grades; x_2 the amount with skill grade 2 or higher; and so on, with x_k the amount with the highest skill grade k. The technical input-output coefficients for any process must be interpreted analogously. Thus a_{1j} is the total amount of labor of the k grades of the subset needed to produce a unit of output in process j; a_{2j} is the amount required of labor of grade 2 or higher; a_{kj} the amount required of grade k. These coefficients must be distinguished from the requirement for labor of an exact grade; the need for specifically unskilled labor is for example $a_{1j}-\sum_2^k a_{ij}$. Under this interpretation p_i is not the total wage of workers of grade i; it is only the differential of their wage above that of workers employed at grade i-1. p_1 is the wage of general unskilled labor of lowest grade, and the full wage of workers of grade i is $\sum_1^i p_u$. A p_i is zero when the cumulative supply of workers of at least skill grade i exceeds the demand; this means that some workers are employed below their level of qualification and receive no differential reward for their higher skill. There can be several hierarchical subsets of the full set of inputs, and is general formulation of supplies, input requirements, and prices can be maintained even if they overlap, provided they join at or near the bottoms of their pyramids as in Figure 4.

This set-up makes it easy to see how to handle occupational entry restrictions within the format of the linear programming model. Simply make the supply constraints in the labor grades where such monopolies are effective lower than the actual qualified supply. Leave unchanged the supply constraints of other grades. The basis of the solution will be altered accordingly, generally increasing the p_i --the skill premiums--in the sheltered occupations and decreasing the p_i of unsheltered lower-grade occupations that suffer from the lack of complementary workers at higher grades. This is the sort of model behind the scenarios of section IV.

VI

The assumption of constant returns to scale may not be justified. How would the first approximation conclusions have to be modified? On the one hand, it might be argued that there are diminishing returns to scale in the inputs of labor and reproducible capital because of limited supplies of natural resources, for example unimproved land. On these grounds diminution in population, even accompanied by a proportionate curtailment of capital inputs, could be welcomed because it would raise average output per unit of input. I doubt the applicability, or at least the importance, of this consideration in East Africa, where population density is not high and much land and space are unused.

On the other hand, the national markets may be so small that many economies of scale have yet to be fully exploited. Even though the countries engage in international trade, the size of their domestic markets is relevant, given the natural obstacles and costs of distance as well as tariffs and other governmental barriers to free trade. On this score, reduction in the size of the domestic market by expulsion is, other things equal, bad for per capita income. Expelled aliens in England and India are not a substitute, so far as the size of the market is concerned, for aliens in Nairobi and Mombasa and Kampala--a fact reinforced by the likelihood that their marginal productivities are lower in their new and strange locales.

Another assumption that might be challenged is the aggregation of output into a single homogeneous good in the models analyzed above. Departure of aliens probably in fact changes the mix of output, since their tastes are not the same as those of citizens. Some may wonder whether aliens' high incomes were due to the fact that their inputs were especially well adapted to the pre-expulsion final bill of goods and would not be so valuable in producing the goods and services favored in a citizen economy. The question almost refutes itself. In the extreme, the aliens might have been a separate economy, producing for themselves to satisfy their own tastes. If so, their departure--regardless of how rich they were--could neither help nor harm the separate citizen economy. To the extent that their incomes were due to their own tastes, their influence on the rest of the economy was neutral. If they earned incomes by selling to citizens, it is because their inputs were in some degree adapted to citizen tastes, and their withdrawal has the kind of effects already described.

One could indeed apply a standard two country international trade model to the alien and citizen communities and obtain the standard conclusion that normally each side gains from trade, or at worst does not lose. The extreme possibility that aliens manipulate the terms of trade so as to capture all the gains for themselves means that citizens would not lose by the termination of the trade when the aliens depart. It does not mean that they would gain. Anyway this suspicion is just the question of alien monopolies in another guise, a subject already discussed in section IV.

VII

Sometimes official economic rationales of policies of Africanization, implicit and explicit, seem to be based on an image of the economic process quite different from the models discussed above. The image is an economy whose aggregate wealth and income are naturally and exogenously determined, independently of the effort, skill and saving of the inhabitants. Jobs and shops and businesses are just tickets that allow the holders to claim shares of these exogenously fixed, though it is hoped growing, amounts of wealth and output. The tickets can be reassigned without danger to the total, so obviously the lot of citizens can be improved by giving them tickets formerly held by aliens. Maybe such an economy is approximated by an oil-rich sheikdom or by a country whose land effortlessly yields crops for export or home consumption or displays scenic beauties greatly prized by foreigners. But it is a dangerous model for almost all real countries, and a possibly serious consequence of expulsion policies may be that these rationales will be believed by the governments that espouse them and the people the policies are supposed to benefit.

Economics and economic theory cannot evaluate that danger, and they are equally helpless to appraise an intangible effect of great potential importance in the opposite direction. This is the response of the populace to national challenge, evoked by the political appeal of economic independence and self-sufficiency and even accentuated by the initial hardships and disruptions incident to expulsion. (Let us show the world and ourselves that we can do it on our own, just as the Egyptians confounded skeptical prophecies and operated the Suez canal.) The example of communist China shows that nationalistic and patriotic motivations, tinged until fairly recently with xenophobia, can support indigenous economic progress. Whether the example can be copied in Africa or elsewhere, with or without communism, only the future can tell. But the Chinese case suggests one more lesson, namely that economic progress occurs after "wars" of economic independence stop and are supplanted by hard work and careful administration, sustained by appropriate shift in the party line. In some ways the Great Cultural Revolution of the 1960s in China was the moral and political equivalent of the policies of expulsion and Africanization in East Africa. It did considerable economic damage, but the Chinese leadership knew when to declare peace and to shift the emphasis of policy and propaganda from blaming economic ills on enemies to extolling hard work and self-reliance.